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1.

Authors: U. K. Kulkarni, K. V. Kulkarni, D. V. Mane, R. K. Pardeshi

Paper Title: New Chromogenic Spray Reeagent for Detection of Acephate from Biological Material

Abstract: High performance thin layer chromatography has found wide recognition in many fields and in sensitivity of detection offers particular advantage to the toxicologist, which has increased, 10 to 100 times as compared to the chemical method. It has become an important analytical tool since it can separate complex mixture in a relatively short time. In existing study, an effort has been taken to determine organ phosphorus insecticide Acephate by using high performance thin layer chromatography. A new specific Sensitive chromogenic reagent 0.1% solution of ferric chloride in 80% ethanol and 1 % Sulfosalicylic acid in 80% ethanol has been developed for detection of Acephate an organophosphorus insecticide with solvent system petroleum ether: methanol (95: 5).

Keywords: Chromatography, chromogenic, Acephate, ferric chloride, ethanol, Sulfosalicylic, organophosphorus.

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2.

Authors: Ahmed Mudassar Ali, M. Ramakrishna

Paper Title: A Novel Approach for Knowledge Extraction Using Ontology Construction Method

Abstract: In recent research, Ontology construction plays a major role for transforming raw texts into useful knowledge. It reduces the difficulties in understanding the information and semantic interpretation. The proposed method in this paper supports efficient construction of ontology and applies efficient method to train the data before taking into testing process. The proposed approach uses the phrase-pairs to extract useful knowledge and uses data mining techniques and neural network approach to express the knowledge well and also it improves the search speed and accuracy of information retrieval. This method avoids noise generation by analyzing the relevancy of tags to the retrieval process and shows somewhat better recall value compared to other methods. In this approach an optimized reasoners is applied to reduce complexity in the key inference problem. The formulated ontology can help clearly expressing its meaning for various concepts and relations. Due to the increasing size of ontology repository, the matching process may take more time. To avoid this, this method forms a hierarchical structure with semantic interpretation of data. The system is designed to extract useful knowledge from data sources that are constructed by collecting data from diverse sources.

Keywords: Back propagation, domain ontology, knowledge extraction, information retrieval, agricultural environment.

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3.	**Authors:**	**J. Thirumaran, S. Dhinakaran**
	Paper Title:	**Nano-Robotics in Medical Applications-Ventilons**

Abstract: Nano Robotics is a field under continuous development. It involves the construction of robots of the size of 10^-9m. In the last decade many nano robots have made their way out of the drawing boards to enter into the human body and do things beyond human imagination. Symptoms like itching and fever have certain biochemical causes which can be eliminated by injecting nano robots. In this technological era of development our paper acts as a beacon for scientists and research scholars. Our paper mainly concentrates on creating nano robots that mimic the action of RBC's. These nano robots are called as Ventilons. Our paper also concentrates on future trends of nano robotics like implementing nano robots to detect human physiology. The second part of our paper deals with introducing nanosensors and nano-robots in detecting Human blood sugar level. These nano-robots are embedded with mobile phones and the status of the patient can be read from remote places. These nano particles that reduce the size of microelectronic components will cover the entire world inside a single chip.

Keywords: Nano-robots, nano sensors, ventilons, nano technology, nano-medicine.

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4.	**Authors:**	**V. S. Malunjkar, M. G. Shinde, S. S. Ghotekar, A. A. Atre**
	Paper Title:	**Estimation of Surface Runoff using SWAT Model**

Abstract: Runoff is a very important phenomenon of hydrological cycle and it is relevant for the watershed management programme for conservation and development or natural resources and its management. However, In India the availability of accurate information on runoff is scarce. Soil and Water Assessment Tool (SWAT) is a physically based distributed parameter model which has been developed to predict runoff, erosion, sediment and nutrient transport from agricultural watersheds under different management practices. For the present study, a small agricultural watershed has been selected for runoff assessment. Geoinformatic techniques such as ERDAS software and Shuttle Radar Topographic Mission (SRTM) data are used for execution of the model. Calibration of the model is done with the help of observed data and then it is validated on selected study area. For calibration and validation, daily observed runoff data of 1997 and 1998 were used. It is found from the results that, Nash and Sutcliffe efficiency was 0.62 and 0.74 respectively and coefficient of determination was 0.98 and 0.95 respectively for calibration and validation period.

Keywords: Hydrological modeling, Runoff, Nash and Sutcliffe efficiency and SWAT.

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5.	**Authors:**	**V. S. Malunjkar, M. G. Shinde, A. A. Atre, V. N. Barai**	
	Paper Title:	**Assessment of Runoff and Sediment Yield from a Small Agricultural Watershed**	
	Abstract: Runoff and soil erosion are very important processes need to be consider during watershed planning and management and are often non-linear and scale dependent, which complicate runoff and erosion modeling at the catchment scale. One of the reasons for scale dependency is the influence of sinks, i.e. areas of infiltration and sedimentation, which lower hydrological connectivity and decrease the area-specific runoff and sediment yield. The simulation models are useful tools for prediction of runoff and soil erosion at plot scale to catchment scale. Various predictive models have been developed by various researchers for predicting runoff and sediment yield from watersheds. The objective of this study was to model runoff and sediment yield for a small watershed using a coupled approach based on Natural Resources Conservation Service Curve Number (NRCS-CN) method and the Universal Soil Loss Equation (USLE). The results showed that the coupled approach of NRCS-CN and USLE model accurately simulate runoff and sediment yield from the study area. **Keywords:** Runoff, erosion, simulation, universal soil loss equation. **References:** 1. G. R. Foster and L. D. Meyer, "A closed-form soil erosion equation for upland areas", In: Shen, H.W. (Ed.), Sedimentation Symp. in Honor Prof. H. A. Einstein. Colorado State University, Fort Collins, CO, 1972. pp: 12.1–12.19. 2. V. Novotny and G. Chesters, "Delivery of sediment and pollutants from nonpoint sources: a water quality perspective". J. Soil and Water Cons., 1989. pp: 568–576. 3. M. S. Reddy, "Theme paper on Water: Vision 2050." Ind. Water Resour. Soc. Roorkee, 1999. pp: 51–53. 4. NBSSLUP, National Bureau of Soil Survey and Land Use Planning. Land. "Degradation Scenario of India and Programmes/Schemes for development of degraded lands". Unpublished report. 5. D. B. Beasley, L. F. Huggins and E. J. Monke, "ANSWERS: a model for watershed planning". Trans. ASAE, 1980. pp: 938– 944. 6. R. A. Young, C. A. Onstad, D. D. Bosch and W. P. Anderson, "AGNPS: a nonpoint-source pollution model for evaluating agricultural watersheds". J. Soil and Water Cons., 1989. pp: 168–173. 7. M. A. Nearing, G. R. Foster, L. J. Lane, and S. C. Finkner, "A process-based soil erosion model for USDA-water erosion prediction project technology". Trans. ASAE, 1989. 32 (5), pp: 1587– 1593. 8. G. J. Arnold, R. Srinivasan, R. S. Muttiah and J. R. Williams, "Large area hydrologic modeling and assessment Part I: Model development". J. Am. Water Resour. Assoc. 1998. 34 (1), pp: 73–89. 9. S. K. Mishra, J. V. Tyagi, V. P. Singh and R. Singh, "SCS-CN-based modeling of sediment yield", J. Hydrol. 2006. 324, pp: 301-322. 10. USDA, "Urban hydrology for small watersheds". United States Department of Agriculture. Natural Resources Conservation Service. Conservation Engineering Division. Tech. Release 55. 2nd ed. Washington, DC. 1986. P. 164. 11. W. H. Wischmeier and D. D. Smith, "Predicting rainfall erosion losses from cropland east of the Rocky Mountains: Guide for selection of practices for soil and water conservation." U.S. Department of Agriculture handbook No. 537. 1965. 12. A. A. Atre, A. S. Damale and G. B. Bangal, "Estimation of erosion index at Rahuri (Maharashtra)". J. Maharashtra Agric. Uni. 1997. 22 (2). pp: 221-222. 13. R. K. Singh, R. K. Panda, K. K. Satapathy and S. V. Ngachan, "Simulation of runoff and sediment yield from a hilly watershed in the eastern Himalaya, India using the WEPP model." J. Hydrol. 2011. 405, pp: 261–276. 14. J. Martinec and A. Rango, "Merits of statistical criteria for the performance of hydrologic models". Water Resour. Bull. AWRA , 1989. 25 (20), pp: 421–432. 15. J. E. Nash and J. V. Sutcliffe, "River flow forecasting through conceptual models, Part-1: A discussion of principles". J. Hydrol. 1970. 10 (3), pp: 282–290.	**16-20**
6.	**Authors:**	**Bankar Kartik, Joshi Bhargav, Mungal Mahajan, Subhash Rathod**	
	Paper Title:	**NFC Based Android API Healthcare System**	
	Abstract: With the recent increase in usage of mobile devices especially in developing countries, they can be used for an efficient healthcare management. In this work, we have proposed a novel architecture for improving health care system with the help of Android based mobile devices with NFC and Bluetooth interfaces, smartcard technology on tamper resistant secure element (SE) for storing credentials and secure data, and a Health Secure service on a hybrid cloud for security and health record management. The main contribution of this paper is proposal of applications for: i) Secure Medical Tags for reducing medical errors and ii) Secure health card for storing Electronic Health Record (EHR) based on Secure NFC tags, mobile device using NFC P2P Mode. Since NFC NDEF format is prone to security attacks [2], we have utilized low level APIs on Android based mobile devices, to securely access NFC tags such as MIFARE. Simple touch of NFC enabled mobile devices can benefit both the patient as well as the medical doctors by providing a fast and secure health flow. It can also provide portability of devices and usability for health management in emergency situation, overpopulated hospitals and remote locations. **Keywords:** Android based mobile devices, NFC, Bluetooth interfaces, secure element (SE), Electronic Health Record (EHR), NFC P2P Mode, MIFARE. **References:** 1. Vedat Coskun, Busra Ozdenizci and Kerem Ok, "A Survey on Near Field Communication (NFC) Technology", J. Wireless Personal Communications: An International Journal, vol. 71, pp. 2259-2294, 2013. 2. M. Roland and .I. Langer, "Digital Signature Records for the NFC Data Exchange Fonnat", IEEE Proceedings of the Second International Workshop on Near Field Communication (NFC), pp, 71-76, 2010. 3. Ryan W. Gardner, Sujata Garera, Matthew W. Pagano, Matthew Green, and Aviel D. Rubin, "Securing medical records on smart phones", Proceedings of the first ACM workshop on Security and privacy in medical and home-care systems, pp. 31-40,2009. 4. Lahtela, A., Hassinen, M.and .Iylha, V., "RFID and NFC in healthcare: Safety of hospitals medication care", IEEE proceedings on Pervasive Computing Technologies for Healthcare, pp. 241-244, 2008. 5. Saroj Kumar Panigrahy, Sanjay Kumar .lena, and Ashok Kumar Turuk, "Security in Bluetooth, RPID and wireless sensor networks", ACM Proceedings on 2011 International Conference on Communication, Computing Security, pp. 628-633,2011. 6. Sebastian Dunnebeil, Felix Kobler, Philip Koene, .Ian Marco Leimeister, and Helmut Krcmar, "Encrypted NFC Emergency Tags Based on the German Telematics Infrastructure", IEEE proceedings on Near Field Communication (NFC), 2011 3rd International Workshop, pp. 50-55.IEEE Press, 2011.	**21-22**

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7.

Authors:	**Nibedita Priyadarshini Mohapatra, Adyasa Mohanty, Prajna Parimita Pradhan, Sasmita Kumari Sahu**
Paper Title:	**Enhancement of Energy Efficient Protocol for Wireless Sensor Network with Improved Communication**

Abstract: Wireless sensor network (wsn) is now the center of attraction for most of the research peoples due to its wide range of applications in almost every field. Where human intervention is impossible, wsn was reachable. It has lots of challenges and issues; we wish to solve the energy budget and also try to provide an improved communication in wireless sensor network. Here we proposed an energy efficient model for wsn which was an enhanced energy efficient routing and clustering approach. This model improves the lifetime of the network with enhanced energy efficiency and improved communication. Here we compare our model with existing protocol and by the simulation results we can say our model performs better than the existing model. Here we also propose a Energy saving data gathering method for wsn with less energy consumption and faster data transmission. The simulation results reflect the idea very well.

Keywords: Sensor network, clustering, routing, energy efficient.

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9. Data Fusion Improves the Coverage of Wireless Sensor Networks by Guoliang Xing1; Rui Tan2; Benyuan Liu3; Jianping Wang2;Xiaohua Jia2; Chih-Wei Yi4, 1Department of Computer Science & Engineering, Michigan State University,USA.
10. Routing Protocols in Wireless Sensor Networks –A Survey Shio Kumar Singh 1, M P Singh 2, and D K Singh 3. Routing Techniques in Wireless Sensor Networks: A Survey¤,Jamal N. Al-Karaki Ahmed E.Kamal Dept. of Electrical and Computer Engineering Iowa State University, Ames, Iowa50011.

8.

Authors:	**P. Gowtham Kumar, P. Chandrasekhar, K. V. R. S. Santhosh**
Paper Title:	**Study on Dual Band Double Layered Substrate Microstrip Fork Antenna**

Abstract: The design of dual band double layered substrate fork shaped microstrip antenna has been proposed. The proposed antenna operates in Ku Band and can be used in satellite communications particularly for editing and broadcasting satellite television. The dimensions of this antenna are 40 x 40 x (h+h1) mm, where h=0.8mm is the thickness of substrate1 and h1=2mm is the thickness of substrate2 and h+h1 is the total thickness of the substrate. FR4 (lossy) material is used as substrate1 and RogersRT6006 (lossy) material is used as substrate2. Copper (annealed) metal is used as both ground plane and the patch. The proposed antenna operates at two frequencies and the frequencies are 14.33 and 13.823GHz. The return losses are -46.319426dB and -40.421846dB at frequencies 14.33 and 13.823GHz. The directivities of the proposed antenna are 8.001 and 7.962dBi at frequencies 14.33 and 13.823GHz.

Keywords: Antenna, fork antenna, Dual Band, Double Substrate, Return Loss, VSWR, Directivity.

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